

FQ5-554

32

Claims:

1. A method for transferring information that is not urgent from a server originally holding the information to an information-request source through a network including a plurality of routers, comprising the steps of:
- 5 determining at least one relay server located on a path between the server and the information-request source, wherein the path is set by at least one router in the network; and
- 10 transferring the information through the path such that each relay server receives the information from upstream, temporarily stores and transmits the same to downstream.
2. The method according to claim 1, wherein the information-request source is a cache server for storing a copy
- 15 of information that is likely to be accessed by a terminal.
3. The method according to claim 2, wherein transfer of information from the server to the cache server is caused by the cache server performing at least one of an automatic cache updating operation, a link prefetching operation and a cache
- 20 server cooperating operation.
4. A method for transferring information that is likely

T01329-0305T050

5 providing a plurality of relay servers each having
a time slot previously assigned thereto;

10 at each relay server,
 when a current time falls into the time slot assigned
 thereto, sending a request for transfer of the information to
 an upstream-located server holding the information;

when receiving a request for transfer of the information from a downstream-located server, transmitting the information stored to the downstream located server through the path.

5. The method according to claim 4, wherein the time slot assigned to each relay server is determined depending on where the relay server is installed, wherein the time slot is a time period during which small traffic is predicted in an area where the relay server is installed.

FQ5-554

34

6. A network system comprising:
- a content-request source for requesting content that is not urgent;
 - a server storing the content;
 - 5 at least one relay server for relaying the content;
 - and
 - a plurality of routers,
 - wherein
 - the content-request source comprises:
 - 10 a relay controller for notifying a relay server located on a path set by at least one router between the server and the content-request source, of identification of the content to be obtained, and
 - the at least one relay server comprises:
 - 15 a storage for storing the content; and
 - a controller controlling such that the content is received from upstream, is temporarily stored in the storage, and is transmitted to downstream.

7. The network system according to claim 6, wherein the
- 20 content-request source is a cache server for requesting content that is likely to be accessed by a terminal, wherein when requesting a latest version of the content that is likely to be accessed by a terminal, the relay controller notifies the relay server located on the path of the identification of the

F0120-07101

EQ5-554

35

content.

8. The network system according to claim 7, wherein the cache server comprises:

at least one of an automatic cache updating section,
5 a link prefetching section and a cache server cooperating section, which request the relay controller to obtain the latest version of the content that is likely to be accessed by a terminal.

9. A network system comprising:

10 a cache server for requesting content that is likely to be accessed by a terminal;

a server storing the content;

a plurality of relay servers, each of which relays the content; and

15 a plurality of routers,

wherein

the cache server comprises:

a relay timing memory for storing a time slot suitable for relay operation for each of the relay servers; and

20 a relay controller for notifying a relay server located on a path set by at least one router between the server and the cache server, of identification of the content to be obtained, in the time slot for the relay server, and

each of the relay servers comprises:

20010724 10E 12:44 FAX 03 3288 3222 Ktsuragi Patent → USIKOLENA

a controller controlling such that

5 content is sent to an upstream-located server holding the
content.

when receiving the content from the upstream-located server through the path in response to the request, the content is stored in the storage, and

10 when receiving a request for transfer of the content from
a downstream-located server, the content stored is transmitted
to the downstream-located server through the path.

10. The network system according to claim 9, wherein the time slot for each of the relay servers is determined depending on where the relay server is installed, wherein the time slot is a time period during which small traffic is predicted in an area where the relay server is installed.

11. A recording medium storing a first program for
instructing a content-request computer to request content that
20 is not urgent from a server computer storing the content through
a network and a second program for instructing a relay server
computer to relay the content, in machine-readable form,

the first program making the content-request
computer function as a relay controller for notifying a relay

THE **NEW** **YORK** **PUBLIC** **LIBRARY**

FQ5-554

37

server located on a path set by at least one router between the server computer and the content-request computer, of identification of the content to be obtained, and

The second program making the relay server computer function as a controller controlling such that the content is received from upstream, is temporarily stored in a storage, and is transmitted to downstream.

12. The recording medium according to claim 11, wherein the content-request computer is a cache server computer for requesting content that is likely to be accessed by a terminal, wherein when requesting a latest version of the content that is likely to be accessed by a terminal, the relay controller notifies the relay server computer located on the path of the identification of the content.

13. A recording medium storing a first program for instructing a cache server computer to request content that is likely to be accessed by a terminal from a server computer originally storing the content and a second program for instructing a relay server computer to relay the content, in machine-readable form,

the first program comprising the steps of:

storing time slots previously assigned to respective ones of a plurality of relay server computers in a network; and

2001 07/24 TUE 12:45 FAX 03 3288 3222 Ktsuragi Patent → USIPOLENA

5 the second program comprising the steps of:

when receiving the content from the upstream-
10 located server through the path in response to the request,
storing the content in a storage; and

15

Everything I have said here has been based on my own experience. I am not a doctor or a lawyer, and I am not a professional writer. I am just a person who has lived through a lot of things and wants to share what I have learned.